

What is claimed is:

1. A light-emitting diode comprising:

an n-type nitride semiconductor layer;

an n-side electrode, which is provided on the n-type nitride semiconductor layer;

a p-type nitride semiconductor layer; and

a p-side electrode, which is provided on the p-type nitride semiconductor layer, having a p-side current diffusing member and a p-side pad member provided on at least a part of the p-side current diffusing member; wherein,

the n-side electrode and p-side electrode are provided in an electrode-forming-plane side, and

the light-emitting diode has a shape with a longitudinal direction in view from the electrode-forming-plane side, and

the n-side electrode has an n-side connecting portion to be connected to a conductive member, and an n-side extending portion which extends in the longitudinal direction from a predetermined part of the n-side connecting portion, and

the p-side pad member has at least p-side connecting portion to be connected to a conductive member, and

the light-emitting diode further comprises an n-side connecting area, in which the n-side connecting portion is provided, provided in proximity to one end in the longitudinal direction, a p-side connecting area, in which the p-side connecting portion is provided, provided in proximity to another end in the longitudinal direction, and a middle area provided between them, and

the n-side extending portion is positioned in the middle area, and extends so as to be opposed to the p-side current diffusing member.

2. The light-emitting diode according to the claim 1, wherein, the p-side pad member further has an p-side extending portion, which extends in the longitudinal direction from a predetermined part of the p-side connecting portion, and

the p-side extending portion is opposed to the n-side extending portion in the middle area, and is positioned in the far side from the n-side extending portion in the p-side current diffusing member.

3. The light-emitting diode according to the claim 1, wherein, the p-side current diffusing member allows at least a part of the light from the light-emitting diode to pass through.

4. The light-emitting diode according to the claim 2, wherein, the p-side current diffusing member allows at least a part of the light from the light-emitting diode to pass through.

5. The light-emitting diode according to the claim 1, wherein, the p-side current diffusing member has a plurality of openings, which allows at least a part of the light from the light-emitting diode to pass through.

6. The light-emitting diode according to the claim 2, wherein, the p-side current diffusing member has a plurality of openings, which allows at least a part of the

light from the light-emitting diode to pass through.

7. The light-emitting diode according to claim 1, wherein, the p-side current diffusing member has a stair portion in a predetermined part of the middle area, and the n-side extending portion extends along the stair portion, and

the distance D between the n-side extending portion and the far-side edge of the p-side current diffusing member from the n-side extending portion in the middle area is shorter than the distance E, which is the width of the p-side current diffusing member in the p-side connecting area in the width direction.

8. The light-emitting diode according to the claim 7, wherein, the distance A between the n-side extending portion and the p-side current diffusing member, which are opposed to each other, is shorter than the distance B between the tip of the n-side extending portion and the p-side current diffusing member positioned in the p-side connecting area side from the tip.

9. The light-emitting diode according to claim 1, wherein, the n-side connecting portion and the p-side current diffusing member are opposed to each other in the longitudinal direction, and

the distance A between the n-side extending portion and the p-side current diffusing member, which are opposed to each other, is shorter than at least the distance C between the n-side connecting portion and the p-side current diffusing member, which are opposed to each other, in the longitudinal direction in proximity to the tip of the p-side extending portion.

10. The light-emitting diode according to claim 1, wherein, the n-side connecting portion and the p-side connecting portion are opposed to each other in the longitudinal direction.

11. A light-emitting diode comprising

a laminated-layer construction of semiconductor having an n-type contact layer of nitride semiconductor with an n-side electrode, a p-type contact layer of nitride semiconductor with a p-side electrode, and an active layer of nitride semiconductor interposed between the n-type contact layer and p-type contact layer, wherein,

the n-side electrode and the p-side electrode are provided in the same electrode-forming-plane side, and

the n-type contact layer has a first area where the laminated-layer construction of semiconductor with the p-side electrode is provided, and a second area different from the first area, in view from the electrode-forming-plane side, and

a plurality of bumps and dips is formed in the second area, and

the top of the plurality of bumps and dips is positioned in the p-type contact layer side than the active layer in a cross-sectional view of the light-emitting diode.

12. The light-emitting diode according to claim 11, wherein, the top of the plurality of bumps and dips is positioned virtually as high as the p-type contact layer.

13. The light-emitting diode according to claim 11, wherein, the bumps is formed in a trapezoid, which is gradually thinner toward the p-type contact layer side in view of a cross-sectional view of the bumps and dips.

14. The light-emitting diode according to claim 11, wherein, the plurality of bumps and dips is provided at least between the first area and the n-side electrode in view from the electrode-forming-plane side.

15. The light-emitting diode according to claim 11, wherein,

the p-side electrode has a p-side current diffusing member, which is provided on the p-type contact layer, for diffusing a current supplied thereto, and a pad member, which is provided at least on a part of the p-side current diffusing member, for supplying a current to the p-side current diffusing member, and

the laminated-layer construction of semiconductor provided in the first area, which is positioned between the n-side electrode and the pad member of the p-side electrode, has constricted portions in the both sides in the direction perpendicular to the line connecting the n-side electrode and the pad member of the p-side electrode in view from the electrode-forming-plane side, and the plurality of bumps and dips is formed in the constricted portions.

16. The light-emitting diode according to claim 11, wherein, the p-side electrode has a p-side current diffusing member, which is provided on the p-type contact layer, for diffusing a current supplied thereto, and a pad member, which is provided at least on a part of the p-side current diffusing member, for supplying a current to the p-side current diffusing member, and

the laminated-layer construction of semiconductor provided in the first area, which is positioned between the n-side electrode and the pad member of the p-side electrode, has a portion constricted from the n-side electrode along the line connecting the n-side electrode and the pad member of the p-side electrode in view from the electrode-forming-plane side, and the plurality of bumps and dips is formed in the constricted portion.